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Specific Toxic Effects of 2,4,6-Trinitrotoluene on Bacillus subtilis SK1

Kurinenko B., Yakovleva G., Denivarova N., Abreimova Y.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

Using Bacillus subtilis SK1 as an example, it was demonstrated for the first time that 2,4,6-trinitrotoluene (TNT) transformation pathways change with TNT concentration. The growth of cultured B. subtilis SK1, delayed at 20 mg/l TNT (minimum toxic concentration), was resumed following TNT transformation. Aromatic amines were predominant metabolites detected in the culture medium at early stages of TNT transformation. The culture growth was completely inhibited by 200 mg/l TNT. As this took place, nitrites accumulated in the culture medium.

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